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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Schelto Van Doorn Art Unit : 2874
Serial No. : 09/574,647 Examiner : Edwin A. Leon
Filed : May 18, 2000
Title : ELECTRICALLY CONNECTING INTEGRATED CIRCUITS AND
TRANSDUCERS

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1-31-02
Juno

Commissioner for Patents
Washington, D.C. 20231

RESPONSE

In response to the action mailed August 15, 2001, please consider the following remarks.

Claims 1-10 are pending. The Examiner has rejected claims 1-7 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,432,758 ("Sone"). Claims 8-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Sone in view of the Applicant's admitted prior art.

I. The Amendment Objection

Applicant respectfully disagrees with the Examiner that the previous amendment added new matter. Applicant's amendment was to a reference in the Background to a transducer typically plugged into a motherboard or circuit card in a computer or a peripheral device. Applicant amended the reference to include that the transducer was electrically connected to other integrated circuits by conventional metallic printed circuit board traces, which Applicant submits is well known in the art. The amendment is not new matter, since it is supported in the original Specification in at least two locations. Page 2, at lines 27-31, discloses the electrical connection of transducers and integrated circuits using conventional metallic printed circuit board traces, which is reiterated at page 3, lines 23-26. Accordingly, Applicant's amendment is supported by the original disclosure and does not introduce new matter.

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II. The § 102 Rejections

Claim 1 recites a transducer comprising "a base mountable on a substrate, and an input/output (I/O) lead configured to contact an I/O lead of an integrated circuit mounted on the substrate." The Examiner states that Sone discloses a transducer comprising a base and having leads. However, Sone does not have leads "configured to contact an I/O lead of an integrated circuit mounted" on a substrate on which the base of the transducer is mounted, as recited in claim 1.

Sone teaches leads that are electrically connected to the conductive patterns formed on the surface of the base of the transducer (Sone, Col. 4, lines 16-17, 28-30, 57-60). When the base is mounted on a printed board, these conductive patterns are then electrically connected to a conductive pattern on the printed board (Col. 6, lines 24-27). Thus, Sone's leads are connected to the base, not to a printed circuit board or integrated circuit. In fact, Sone does not teach any integrated circuit at all, much less that the transducer should contact the leads of the integrated circuit.

By contrast, the transducer recited in claim 1 is configured to contact an I/O lead of an integrated circuit, thus avoiding an indirect electrical connection to the integrated circuit. A potential advantage of this construction is to avoid an indirect electrical connection to the integrated circuit through the circuit board that is vulnerable to the parasitic and high-inductance limitations generally associated with conventional metallic printed circuit board traces (Specification, page 2, lines 29-31).

By further contrast, the Examiner acknowledges that Sone does not disclose a "transducer comprising a transductional device, which can be an opto-electronic device, or an electronic device" (Office Action, para. 6). The Examiner states "it would have been obvious to one with ordinary skill in the art to modify the transducer of Sone by including transductional devices that can be opto-electronic devices or electronic devices as taught in the Applicant's admitted prior art to provide efficient transmission of data." In fact, the transducer disclosed in Sone is an electroacoustic transducer that creates an acoustic signal in response to an electric signal (see Abstract), which is not a transducer as that term is understood in the field of computer design.

The term transducer, as used in applicant's specification, refers to a device that transitions between the transfer media of jumper cables and the electronic data transfer protocols of integrated circuits inside computers and peripheral devices (Specification, p. 1, lines 17-19). A transducer of this nature produces a standardized output in accordance with prescribed protocols, regardless of the medium (e.g., optical fiber or electrical conductor) through which the data is transmitted or received (p. 1, lines 7-9). The Examiner has failed to provide any motivation to combine the prior art cited by applicant with the electroacoustic transducer taught by Sone. Further, it is not apparent from the Examiner's remarks how Sone's electroacoustic transducer could be modified to achieve a transducer (as that term is used in the Specification) as recited in applicant's claim 1.

Applicant submits that for at least the reasons stated above, claim 1, and claims 2-7 that depend from claim 1, are allowable over Sone.

Claim 2 is allowable for the following additional reason. Claim 2 recites the transducer of claim 1, "wherein the transducer I/O lead is configured to electrically connect to the integrated circuit I/O lead independently of any electrically conductive path of the substrate." Sone teaches a transducer having leads connected to conductive paths on the transducer, which in turn are electrically connected to a printed board. Accordingly, Sone teaches away from a transducer having a lead configured to electrically connect to an integrated circuit I/O lead independently of any electrically conductive path of the printed board (substrate), as recited in claim 1.

Applicant submits claims 1-7 are patentable over Sone for at least the reasons stated above.

II. The § 103 Rejections

Claims 8-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Sone in view of the Applicant's admitted prior art. The Examiner states that Sone discloses the claimed invention except for the transducer comprising a transductional device, which can be an opto-electronic device, or an electronic device. The Examiner further states that applicant's admitted prior art discloses the user of transductional devices that can be opto-electronic devices or electronic devices, and thus it would have been obvious to one with ordinary skill in the art to

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modify the transducer of Sone by including transductional devices that can be opto-electronic devices or electronic devices.

For the reasons stated above, applicant submits that Sone fails to disclose all of the elements of transducer recited in claim 1, and accordingly Sone does not, in combination with applicant's admitted prior art, disclose all of the elements of the transducer recited in claim 8-10. Accordingly, applicant submits that claims 8-10 are patentable over Sone in view of applicant's admitted prior art.

Applicant asks that all claims be allowed. Enclosed is a \$110.00 check for the Petition for Extension of Time fee. Please apply any other charges or credits to Deposit Account

No. 06-1050.

Respectfully submitted,

Date: 12/10/01

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